In the claims:

1-36. (Cancelled)

37. (Amended) A method of determining presence or absence of a clinical condition in an individual, the method~~generating a profile of particulate components in a body fluid sample~~ comprising ~~the steps of~~:

(a) causing controlled flow of ~~the~~ a body fluid sample of the individual on a substrate, said controlled flow of ~~the~~ said body fluid sample leading to a differential distribution of the particulate components on said substrate; ~~and~~

(b) providing a magnified image of differentially distributed particulate components on said substrate, ~~said magnified image representing a profile of said particulate components in the body fluid sample~~thereby generating a profile of particulate components in ~~the~~said body fluid sample of the individual; and

(c) comparing said profile of step (b) with a profile of particulate components of a control body fluid sample obtained under said controlled flow to thereby determine presence or absence of the clinical condition in the individual.

38. (Amended) The method of claim 37, ~~further comprising the step of analyzing and optionally characterizing the~~ wherein step (c) comprises comparing said profile ~~representing said particulate components in the body fluid sample~~of step (b) and said profile of particulate components of a control body fluid sample according to at least one parameter selected from the group consisting of estimated hemoglobin concentration, approximated leukocyte count and differential, approximated platelet count, degree of leukocyte aggregation, aggregate composition, degree of leukocyte, erythrocyte and/or platelet adherence towards the surface of said substrate, degree of red cell aggregation, degree of platelet aggregation, degree of leukocyte to erythrocyte interaction, degree of erythrocyte to platelet interaction and degree of leukocyte to platelet interaction.

39. (Cancelled)

40. (Amended) The method of claim 38, wherein the step of analyzing and optionally characterizing the profile representing said particulate components in ~~the~~ said body fluid sample is used for determining the efficiency of a treatment regimen.

41. (Cancelled)

42. (Amended) The method of claim ~~39~~37, wherein ~~said~~ the clinical condition is caused by an agent selected from the group consisting of an infective agent and a chemical agent.

43. (Amended) The method of claim ~~39~~37, wherein ~~said~~ the clinical condition is caused by a disorder selected from the group consisting of atherosclerosis, diabetes viral infection and bacterial infection.

44. (Amended) The method of claim ~~38~~37, further comprising the step of converting said magnified image into data prior to ~~said~~ step ~~of analyzing~~(c).

45. (Amended) The method of claim 37, wherein said body fluid sample of the individual is a peripheral blood sample.

46. (Original) The method of claim 37, wherein said step of causing controlled flow of said body fluid sample on a substrate is effected by a holder capable of holding said substrate in an essentially angled position, or by a centrifuge.

47. (Original) The method of claim 37, further comprising staining the particulate components on said substrate prior to step (b).

48. (Amended) A method of determining presence or absence of an atherosclerosis risk factor ~~of~~ in an individual, the method comprising the steps of:

(a) causing controlled flow of a body fluid sample ~~obtained from~~of the individual on a substrate, said controlled flow of said body fluid

sample leading to a differential distribution of particulate components included in said body fluid sample on said substrate;

(b) providing a magnified image of differentially distributed particulate components on said substrate, ~~said magnified image representing a profile of said particulate components in the body fluid sample~~thereby generating a profile of particulate components in said body fluid sample of the individual; and

(c) comparing said profile of step (b) with a profile of particulate components of a control body fluid sample obtained under said controlled flow ~~analyzing at least one parameter of said profile~~ to thereby determine presence or absence of the atherosclerosis risk factor ~~of~~ in the individual.

49. (Amended) The method of claim 48, wherein ~~said~~ step (c) comprises comparing said profile of step (b) and said profile of particulate components of a control body fluid sample according to at least one parameter ~~is~~ selected from the group consisting of a number of white blood cells, leukocytes adhesiveness/aggregation state (LAAT) and erythrocytes adhesiveness/aggregation state (EAAT).

50. (Amended) The method of claim 48, further comprising the step of converting said magnified image into data prior to ~~said~~ step ~~of analyzing~~(c).

51. (Amended) The method of claim 48, wherein said body fluid sample of the individual is a peripheral blood sample.

52. (Original) The method of claim 48, wherein said step of causing controlled flow of said body fluid sample on said substrate is effected by a holder capable of holding said substrate in an essentially angled position or a centrifuge.

53. (Original) The method of claim 48, further comprising staining the particulate components included in said body fluid sample prior to step (b).

54. (Amended) A method of generating a profile of a body fluid sample of an individual comprising the steps of:

(a) causing controlled flow of the body fluid sample on a substrate, said controlled flow of the body fluid sample leading to a distribution of the body fluid sample on said substrate; and

(b) determining a thickness variance of the body fluid sample along a direction of said controlled flow on said substrate, ~~said thickness variance representing a profile of the body fluid sample~~to thereby generate the profile of the body fluid sample of the individual; and

(c) comparing the profile of step (b) with a profile of a control body fluid sample obtained under said controlled flow.

55. (Original) The method of claim 54, further comprising the step of analyzing and optionally characterizing particulate components of said body fluid sample in at least one specific region of said substrate.

56. (Original) The method of claim 55, wherein said step of analyzing and optionally characterizing particulate components in said body fluid sample is effected according to at least one parameter selected from the group consisting of estimated hemoglobin concentration, approximated leukocyte count and differential, approximated platelet count, degree of leukocyte aggregation, aggregate composition, degree of leukocyte, erythrocyte and/or platelet adherence towards the surface of said substrate, degree of red cell aggregation, degree of platelet aggregation, degree of leukocyte to erythrocyte interaction, degree of erythrocyte to platelet interaction and degree of leukocyte to platelet interaction.

57. (Original) The method of claim 54, wherein said profile of the body fluid sample is used for determining a presence or absence of a clinical condition in an individual.

58. (Original) The method of claim 55, wherein the step of analyzing and optionally characterizing particulate components of said body fluid sample in said at least one specific region of said substrate is used for diagnosing a disorder in an

individual.

59. (Amended) The method of claim ~~56~~57, wherein said clinical condition is caused by an agent selected from the group consisting of an infective agent and a chemical agent.

60. (Amended) The method of claim ~~56~~57, wherein said clinical condition is caused by a disorder selected from the group consisting of atherosclerosis, diabetes viral infection and bacterial infection.

61. (Original) The method of claim 54, wherein said body fluid sample is a peripheral blood sample.

62. (Original) The method of claim 54, wherein said step of causing controlled flow of said body fluid sample on a substrate is effected by a holder capable of holding said substrate in an essentially angled position, or by a centrifuge.

63. (Withdrawn) A carrier comprising a plurality of lanes each occupying a length, and a portion of a width, of a surface of the carrier, each lane of said plurality of lanes being coated with a specific molecule capable of binding a specific cell type present in a biological sample.

64. (Withdrawn) The carrier of claim 63, wherein the carrier is designed and configured for placement in a microscope stage.

65. (New) The method of claim 37, wherein said magnified image is of said differential distribution of said particulate components along at least one axis selected from the group consisting of an axis along a length of said substrate, an axis along a width of said substrate and an axis perpendicular to said substrate.

66. (New) The method of claim 37, wherein said control body fluid sample is derived from an individual which is healthy.

67. (New) The method of claim 37, wherein said control body fluid sample is derived from an individual having the clinical condition.

68. (New) The method of claim 48, wherein said magnified image is of said differential distribution of said particulate components along at least one axis selected from the group consisting of an axis along a length of said substrate, an axis along a width of said substrate and an axis perpendicular to said substrate.

69. (New) The method of claim 48, wherein said control body fluid sample is derived from an individual which is healthy.

70. (New) The method of claim 48, wherein said control body fluid sample is derived from an individual having the atherosclerosis risk factor.

71. (New) The method of claim 54, wherein said control body fluid sample is derived from an individual which is healthy.

72. (New) The method of claim 54, wherein said control body fluid sample is derived from an individual having a clinical condition.